CLAIMS

What is claimed is:

1. A receiver for radio frequency communications, comprising:

an amplifying circuit receiving a radio frequency input signal, wherein the amplifying circuit has an adjustable bias level;

any number of bypass switches coupled across the amplifying circuit; and

baseband circuitry coupled with at least one of the any number of bypass switches, wherein the baseband circuitry generates a bypass control signal to control the at least one bypass switch so as to vary a bias control signal that is generated to set the adjustable bias level of the amplifying circuit;

wherein the at least one bypass switch provides a direct connection between a low noise amplifier and a mixer when utilized according to the bypass control signal.

2. The receiver according to claim 1, further comprising:

a bias generator coupled with the amplifying circuit, wherein the bias generator generates at least the bias control signal based on a signal dependent on a total received radio frequency power of the radio frequency input signal to set the adjustable bias level of the amplifying circuit.

3. The receiver according to claim 2, wherein the bias generator comprises a circuit selected from an RSSI circuit.

4. The receiver according to claim 3, wherein the configuration of the bias generator is selected from a configuration that conditions the bias control signal, a configuration that responds to bias level as regulating feedback, and a configuration that holds the bias level at a particular level.

5. The receiver according to claim 1, wherein the at least one bypass switch minimizes oscillator self mixing, receiver signal self mixing and oscillator leakage.

6. The receiver according to claim 1, wherein the amplifying circuit comprises a first filter coupled with a radio frequency amplifier, wherein the radio frequency amplifier has the adjustable bias level to generate an internal signal according to the bias control signal.

7. The receiver according to claim 6, further comprising:

a oscillation signal;

a dividing circuit that receives the oscillation signal and divides down the oscillation signal, wherein the divided down oscillation signal is supplied to the mixer.

8. A radio frequency circuit, comprising:

an amplifying circuit receiving a radio frequency input signal, wherein the amplifying circuit has an adjustable bias level;

a bias control generator coupled with the amplifying circuit, wherein the bias control generator provides a bias control signal to control the adjustable bias level of the amplifying circuit and an internal signal; and

a bypass switch coupled across the amplifying circuit, wherein the bypass switch receives the radio frequency input signal and provides a direct conversion of the radio frequency input signal to the first internal signal.

9. The receiver according to claim 8, wherein the bypass switch provides the direct conversion of the radio frequency input signal to the first internal signal wherein the first internal signal comprises a DC component signal corresponding to a bias power received by the amplifying circuit.

10. The receiver according to claim 9, wherein the amplifying circuit is selected from an amplifier, a low noise amplifier, a linear amplifier, a mixer and a radio frequency converter to convert intermediate frequencies.

11. The receiver according to claim 8, wherein the bias control comprises a circuit selected from an RSSI circuit.

12. The receiver according to claim 11, wherein the configuration of the bias control generator is at least in part selected from a configuration that conditions the bias control signal, a configuration that responds to bias level as regulating feedback, and a configuration that holds the bias level at a particular level.

13. The receiver according to claim 8, wherein the bias control generator comprises a detector configured to receive a signal indicating a signal strength of the radio frequency input signal and to produce according thereto the bias control signal, where the bias control signal is dependent on a RSSI dependent on baseband circuitry which includes said feedback power detection.

14. The receiver according to claim 13, wherein the bypass switch minimizes oscillator self mixing, receiver signal self mixing and oscillator leakage.

15. The receiver according to claim 13, wherein the bias control generator further comprises a bias adjustment circuit comprising a circuit selected from an operational amplifier circuit and sample and hold circuit.

16. The receiver according to claim 13, wherein the bias control generator further comprises a digital bias controller coupled with the detector, wherein the digital bias controller samples an output of the detector and compares the sampling with a reference.

17. The receiver according to claim 16, wherein the bias control generator comprises a detector coupled with the radio frequency to intermediate frequency converter, such that the detector receives a level of the intermediate frequency output and produces the bias control signal according to the level of intermediate frequency output.

18. A method for amplifying a radio frequency signal comprising:

receiving a radio frequency input signal;

amplifying the radio frequency input signal into an output signal including adjusting the amplification of the radio frequency input signal into the output signal according to an adjustable bias level and a feedback power signal;

generating a bias control signal based at least in part on the radio frequency input signal;

controlling the adjustable bias level according to the generated bias control signal;

switching the input radio frequency signal to the output signal to correspond to a strength of the feedback power signal and establishing direct conversion between the radio frequency signal and the output signal.

19. The method of claim 18, further comprising:

detecting a base-band signal; and

generating the bias control signal based at least in part on the detected baseband signal.

20. The method of claim 18, wherein the amplifying occurs in a singular step wherein said singular step having a plurality of bias levels.